CLAIMS

1.   A method of analysing a data communications signal to identify one of a plurality of hierarchically-organised data structures to which it conforms, comprising the steps of:

5   receiving the data communications signal;

identifying pointers within the signal related to data payloads carried by the signal;

allocating to each pointer one of a predetermined plurality of statuses indicative of predetermined characteristics of the data payload associated with that pointer;

grouping the pointers in accordance with multiplexing of component parts of the

10   associated data payloads; and

analysing in combination the statuses of the grouped pointers to determine the data structure of the signal.

2.   The method of claim 1, wherein the plurality of pointer statuses comprises a normal

15   status, a status indicative of concatenation, a status indicative of an alarm condition, and a status indicative of an invalid pointer value.

3.   The method of claim 1, wherein the statuses of the grouped pointers are analysed in accordance with the tables in Figures 3*a* and 3*b*.

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4.   A method of displaying structural information relating to a data communications signal conforming to a hierarchical data structure, comprising the steps of:

allocating respective portions of a display to respective levels of a hierarchical data structure;

25   displaying within each display portion at least one graphical element corresponding to at least one data channel within the data structure level represented by that display portion;

controlling the relative sizes of graphical elements within each display portion in accordance with the data carrying capacity of the data channels to which those graphical elements correspond, within the data structure level represented by that display portion; and

30   controlling at least one other visual feature of each graphical element in accordance with a characteristic of the data channel to which that graphical element corresponds.

5.   The method of claim 4, wherein the other visual feature of each graphical element is selected from shape, colour and caption.

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6.   The method of claim 4, wherein a user is enabled to interact with the display to select any graphical element for display of additional information about the data channel to which the selected graphical element corresponds.

7.   The method of claim 6, wherein additional information about the data channel to which the selected graphical element corresponds is displayed in an area of the display adjacent to the display portion representing the data structure level containing that data channel.

8.   The method of claim 6, wherein the quantity of information included in display portions representing data structure levels other than the one containing the data channel to which the selected graphical element corresponds is varied to provide space for displaying information about that data channel.

9.   The method of claim 4, wherein the relationship between data channels at different data structure levels is indicated by connector lines between graphical elements corresponding to those data channels in the corresponding display portions.

10.   The method of claim 4, wherein the shape of a graphical element is selected to be a rectangle, a circle or a diamond in accordance with protocol level of the corresponding data channel.

11.   The method of claim 4, wherein the colour of a graphical element is selected to indicate a characteristic of the corresponding data channel, the characteristic being any one of alarm condition, remote error, remote defect or loss of a pointer value.

12.   The method of claim 4, wherein a caption for each graphical element provides information about the protocol level of the corresponding data channel.

13.   The method of claim 4, wherein the graphical elements within each display portion are disposed in a generally rectangular array.

14.   The method of claim 4, wherein the data communications signal is a Synchronous Digital Hierarchy or Synchronous Optical Network signal.